

A satellite image of Earth's surface, showing a mix of brown, green, and blue tones. A semi-transparent rectangular box is overlaid on the left side of the image, containing text. In the top right corner, there is a small, bright red and orange area, possibly representing a volcanic eruption or a fire.

Four decades of satellites in orbit.

Thousands of images of Earth's surface.

An unbroken history of human and natural changes to the surface of our planet.

# LANDSAT



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For over four decades, Landsat satellites have captured images of Earth.

Landsat satellites sweep around our planet continuously, collecting hundreds of scenes every day. Typically, two Landsat satellites are in orbit at a time, working as a team.

Landsat satellites have observed Earth's surface since the 1970s, creating a vast historical record of changes to the planet, from expanding cities to shrinking glaciers.

Landsat's data is important for water and land management, observing the health of ecosystems, and tracking the impacts of climate change. It has been used to monitor forest fires, analyze the health of crops, give advance warnings of floods, locate groundwater in drought-stricken regions, and much more.

Landsat is a joint initiative between NASA and the United States Geological Survey.

**[landsat.gsfc.nasa.gov](https://landsat.gsfc.nasa.gov)**

**Camp Fire in Sacramento, California:** On November 8, 2018, the Camp Fire blazed to life 90 miles (140 km) north of Sacramento. As of 10 a.m. Pacific Standard Time on November 9, the fire had consumed 70,000 acres of land. This Landsat 8 image shows smoke billowing from the fire as well as the infrared signature, indicated in red, of the active fire. Infrared can be detected through the smoke.

A satellite image of a mountainous region. A river flows through a valley, and a city is visible in the lower left. The mountains are covered in dense green forest. In the top left corner, there is a small, bright, irregular shape that looks like a comet or a meteor. The text is overlaid on the image in white.

We can watch our planet change.

Observe shifting surfaces of land  
and water.

Prevent threats to humanity and  
the environment.

LANDSAT  
**NINE**



# LANDSAT 9

Landsat 9 is the next Landsat observatory, part of a project spanning more than 40 years and multiple observatories.

Targeted to launch in 2020, Landsat 9 will capture images of Earth's surface from 438 miles (704 km) above the planet's surface. The observatory will continuously collect data while completing an orbit of Earth every 90 minutes, creating a record of natural and human-made changes to the planet.

Landsat 9 carries two science instruments:

- **OLI-2** looks at white light broken into colors. These colors reveal information about what's happening on Earth. OLI-2 also sees certain types of infrared radiation. The instrument is so precise that it can show whether crops are thriving or suffering from drought.
- **TIRS-2** is Landsat's heat-viewing infrared instrument. It can be used to observe wildfires, study active volcanoes, and monitor "evapotranspiration," or water evaporating into the air.

Landsat 9 data will be used to make decisions about land and water management, monitor climate change, observe urban growth, and more.

[landsat.gsfc.nasa.gov/landsat-9](https://landsat.gsfc.nasa.gov/landsat-9)

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Card 2 of 2. Full image and more info:  
<https://landsat.visibleearth.nasa.gov/view.php?id=144225>